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cont'd (N)*

A marked-up version of the corresponding original paragraph is attached as a separate page, under the heading "MARKED-UP VERSION OF AMENDED SPECIFICATION".

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Claims 1 - 9 are pending. Claim 1 is independent.

The Examiner has indicated that claims 2 - 9 contain allowable subject matter, for which the Applicant kindly thanks the Examiner.

Claim 1 has been amended and the Applicant submits that the amended claim 1 is consistent with the description in the application and, therefore, does not introduce new matter. Claim 1 has been amended to recite:

"at least one surge absorber in communication with a plurality of function compartments opening into the stator valve surface, for reducing pressure variations in the function compartments."

Support for this amendment is found in Figures 12 and 13, where surge absorbers are shown to be in communication with two (Figure 12) or more (Figure 13) function compartments.

Priority

The Applicant acknowledges the requirement to file a certified copy of the Canadian patent application on which foreign priority is based, and will do so in due course.

Objection to the Oath/Declaration

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The Examiner has objected to the oath/declaration on the basis that the Oath/Declaration refers to the single listed inventor as a "joint" inventor rather than a "sole" inventor. In response, the Applicant submits an attached, newly executed Oath/Declaration wherein the single listed inventor is referred to a "sole" inventor.

Objection to the Specification

The Examiner has objected to the disclosure at page 5, line 19, on the basis that reference to "Fig. 4" should be changed to "Fig. 1". In response, the Applicant has amended the specification at page 5, line 19, by changing the reference from "Fig. 4" to "Fig. 1".

Rejections under 35 U.S.C. § 102

The Examiner has rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by Publication No. WO 97/39821. In particular, the Examiner is of the view that Publication No. WO 97/39821 teaches a gas separation system for extracting gas fractions from a gas mixture, comprising a stator having a stator valve surface and a plurality of function compartments, a rotor coupled to the stator and having a valve surface in communication with the stator valve surface, a plurality of flow paths for receiving adsorbent material, apertures in the rotor valve surface for exposing the flow paths to the function compartments, and a surge compartment that can be disposed between compression equipment and the stator for reducing pressure variations in the function compartments.

In response, the Applicant submits that the subject invention, as defined by the amended claim 1, is patentable over the cited reference.

Claim 1 defines a gas separation system for extracting a first gas fraction and a second gas fraction from a gas mixture including the first and second gas fractions, the gas separation system comprising:

a stator including a stator valve surface and a plurality of function compartments opening into the stator valve surface;

a rotor rotatably coupled to the stator and including a rotor valve surface in communication with the stator valve surface, a plurality of flow paths for receiving adsorbent material therein, and a plurality of apertures provided in the rotor valve surface and in communication with the flow paths for cyclically exposing the flow paths to the function compartments; and
at least one surge absorber in communication with a plurality of function compartments opening into the stator valve surface, for reducing pressure variations in the function compartments.

Unlike the invention as claimed in claim 1, Publication No. WO 97/39821 discloses a gas separation system with a rotor and a stator, and a surge chamber for communicating with a single function compartment of the stator. Notably, the invention as claimed in claim 1 defines a gas separation system including a stator and a rotor rotatably coupled to the stator, and at least one surge absorber in communication with a plurality of function compartments opening into the stator surface. By configuring the system such that each surge absorber is in communication with a plurality of function compartments, the number of surge absorbers required for a given number of function compartments is reduced, thereby reducing space demands and simplifying connections between surge absorbers and compression machinery or other unit operations. As such, the Applicant submits that the invention as claimed in claim 1 is patentable over the cited references.

Applicant respectfully requests entry of the amendments, favourable consideration, and an early Notice of Allowability. The Examiner is invited to contact Applicant's undersigned attorney at his office in Toronto at 416-862-5739 to resolve any remaining issues.

Respectfully submitted,



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MARKED-UP VERSION OF AMENDED SPECIFICATION

As shown in Fig. 2, the rotor 11 is of annular section, having concentrically to axis 12 an outer cylindrical wall 20 whose external surface is first valve surface 21, and an inner cylindrical wall 22 whose internal surface is second valve surface 23. The rotor has (in the plane of the section defined by arrows 15 and 16 in Fig. [4]1) a total of "N" radial flow absorber elements 24. An adjacent pair of absorber elements 25 and 26 are separated by partition 27 which is structurally and sealingly joined to outer wall 20 and inner wall 22. Adjacent absorber elements 25 and 26 are angularly spaced relative to axis 12 by an angle of $[360^\circ / N]$.

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